

National Radio Astronomy Observatory
Charlottesville, Virginia

April 5, 1982

To: Distribution

COG Memo No. 23

From: A. Shalloway

Subject: Test Program for NRAO Data Communications Network

There was a telephone conference between Charlottesville and the VLA site on March 26 to discuss standardizing asynchronous data transmission, e.g., number of data bits, parity, number of start and stop bits, etc.

One of the items discussed was a test program in each computer to allow transmission tests. The purpose of this memo is to remind those responsible to write the test programs in time for our use when the communications equipment is installed. The present schedule for the installation and tests is April 21, but if the programs are ready by April 26, that will be acceptable.

In the remainder of this memo, I will explain the general idea of the test program, list the functions desired of the program and list the person I understand is responsible (or who will delegate responsibility) for each computer.

GENERAL DESCRIPTION

The program should be a simple one in which the computer transmits data to the network. At various points along the network, the data will be looped around and sent back to the computer. The computer test program should then check the received data against the transmitted data and indicate on a local CRT terminal (or printer if there is no CRT terminal) the results of the test.

PROGRAM

I suggest the program perform the following functions. The operator (testing technician or engineer) would enter commands into a terminal. This would indicate he wants to perform the test and how many times the test should be repeated.

One test would consist of transmitting one of each character normally used (e.g., the alphabet A through Z in upper and lower case, numerics 0 through 9, period, comma, etc.). The data would be transmitted to the network and simultaneously displayed on the CRT terminal. The looped back data received by the computer would be displayed on the CRT following the transmitted data. In the display of received data,

any characters in error (e.g., those which are different from the characters which were transmitted) will be displayed blinking or in reverse video or some manner to easily identify them. Following the received data display, there should be a statement on the CRT indicating how many errors were detected and how many characters were transmitted. If the operator requests more than one test be performed, the listing of how many errors out of how many characters were transmitted should appear only once at the end with just the total errors out of the total number of characters transmitted.

I discussed this program with Al Braun by phone today (April 2) and he indicated this would be no problem. I want to keep the program simple so each programmer can have his program ready in time. If any of the above listed functions give you difficulty, please let me know and we can settle on something that will keep it simple for you.

PROGRAMMERS AND COMPUTERS

Below is a list of computers which should contain the test program and the associated programmer (either directly or indirectly) responsible for getting the program written. This list is as I surmised from a conversation with Bob Burns.

Green Bank

IBM Fiscal Computer
IBM 3776 (RJE unit)

Bruce McKean
Bob Vance (this will
not necessarily be
programmed as above)

Charlottesville

VAX
IBM 4341

Al Braun
Ted McKenna

VLA Site

VAX
DEC-10
ModComp

Al Braun
Gareth Hunt
Gareth Hunt

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